

SUPPLEMENTARY STUDIES IN AESCHYNOMENE, II: SERIES PLEURONERVIAE

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Among the specimens collected in Brazil by H. S. Irwin et al. during 1965-1966 is material of an interesting leguminous plant, apparently a new species of Aeschynomene. I am referring it to my series Pleuronerviae (Contr. U. S. Nat. Herb. 32: 1-172. 1955) although, in this case, the acicular leaflets are reduced to little more than the costa.

Another specimen is a good match for Glaziou 20921, which was cited as "Ae. nana Glaz. n. sp. ?", but without adequate description. I now believe Ae. nana to be a good species rather than a synonym of Ae. paucifolia, as I treated it in 1955.

Following is the necessary documentation to validate the names of those two taxa and a revised description of Ae. paucifolia reflecting the separation of Ae. nana from it.

I have also constructed a tentative key to the Brazilian species of series Pleuronerviae as I currently understand them. Unfortunately, I am as yet unsure of the exact delimitation of some of them, particularly, Ae. brevipes, Ae. leptostachya, Ae. marginata with its two varieties, and Ae. racemosa. At the time of writing my first paper on Aeschynomene, cited above, I did not have access, except in a few cases, to specimens from European herbaria, including critical types. I hope to see such material in the near future and to prepare a treatment of Aeschynomene and related genera for the Flora Neotropica.

Key to species of Aeschynomene (series Pleuronerviae) in Brazil

Leaflets acicular, about 12-25 mm. long and 0.5 mm. wide; stipe of fruit 7-8 mm. long Ae. irwinii

Leaflets semi-cordate to oblong, subfalcate or falcate, 2-20 mm. long and 0.5-7 mm. wide, the length about 2 times the width; stipe of fruit 1-5 mm. long.

Costa of leaflets marginal, the leaflets semi-cordate.

Stems slender, weak, to about 35 cm. high; flowers 10-13 mm. long; articles of fruit about 5 mm. long and 3 mm. wide, appressed-pubescent Ae. nana

Stems erect, to about 2 m. high; flowers 6-10 mm. long; articles of fruit about 6.5-7 mm. long and 6 mm. wide; minutely patent-pubescent Ae. paucifolia

Costa of leaflets excentric but not marginal.

Leaflets falcate-ovate, about 10-20 mm. long and 5-7 mm. wide Ae. oroboides

Leaflets oblong, 2-14 mm. long and 1-4 mm. wide.

Length of leaflets about 6-15 mm., the width 1.5-3 mm.

Fruit with articles crisp-pubescent; leaflets 3-4 mm. wide, spreading-pubescent Ae. racemosa

Fruit with articles appressed-pubescent; leaflets 1.5-3 mm. wide, appressed-pubescent to glabrous.

Flowers 6-7 mm. long, the calyx about 3 mm. long . . . Ae. marginata var. marginata

Flowers 8-12 mm. long, the calyx 4-5 mm. long Ae. marginata var. grandiflora

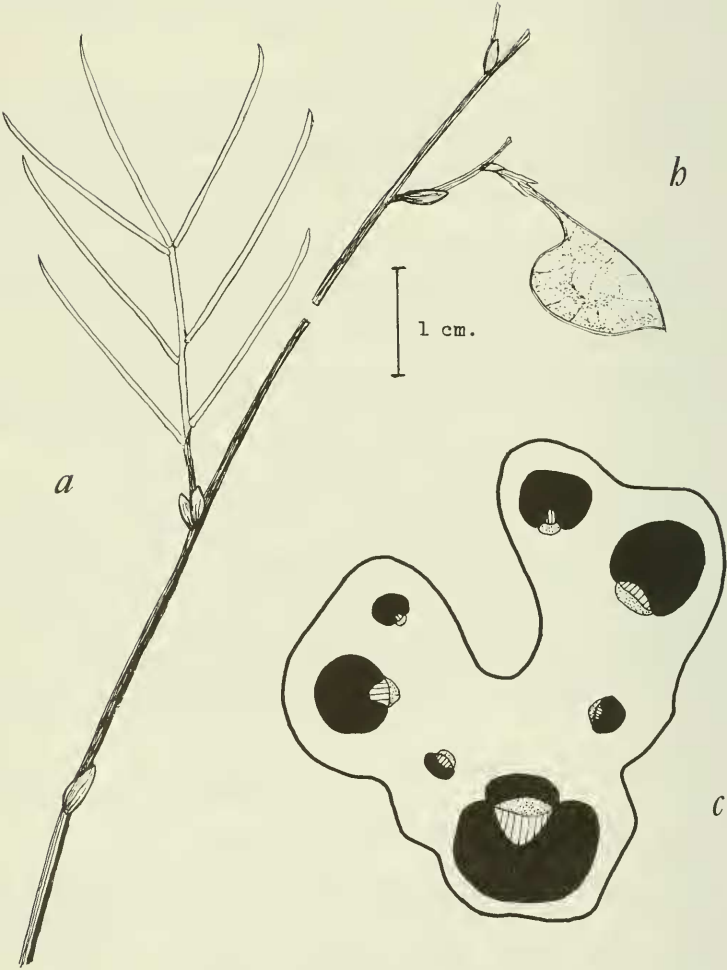
Length of leaflets 2-5 mm., the width 1-2 mm.

Fruit with stipe 4-5 mm. long, the articles 2.5-3.5 mm. in diameter Ae. paniculata

Fruit with stipe 2 mm. long or less.

Leaves about 1.5-2.5 cm. long, 15-24-foliolate Ae. leptostachya

Leaves to about 7 cm. long, 40-80-foliolate Ae. brevipes



AESCHYNOMENE IRWINII Rudd, sp. nov.

Ae. paucifolia Vog. affinis sed caulibus brevioribus, foliolibus paucioribus, aciformibus, leguminibus cum stipite longiore et articulis majoribus differt.

Suffrutescent perennial with numerous slender shoots arising from a deep, woody root; stems slender, erect, to about 25 cm. high, striate, sparsely appressed-pubescent; stipules linear-lanceolate, 2-3 mm. long and 1 mm. broad at the base, or less; leaves with axis 1-2 cm. long, subglabrous, 5-10-foliolate, the petiole 3-6 mm. long; leaflets subglabrous, acicular, about 12-25 mm. long and 0.5 mm. wide, canaliculate on the adaxial side; inflorescences few-flowered, terminal; bracts and bracteoles ovate to deltoid, acute, striate, sometimes ciliate, otherwise essentially glabrous, 1-2 mm. long and 1 mm. wide at the base; flowers 10-12 mm. long; calyx subglabrous, 5-6 mm. long, the teeth attenuate, 2-3 mm. long; petals not seen; fruit moderately pubescent with minute, crispate or spreading hairs, 1-articulate due to abortion of all but one ovule, the stipe about 8 mm. long, the fertile article compressed, 10-11 mm. long and 7-8 mm. wide; seeds not seen.

Type in the U. S. National Herbarium, No. 2486841, collected on campo slopes, Chapada dos Veadeiros ca. 13 km. N.W. of Veadeiros, Goiás, Brazil, elevation 1200 m., 20 October 1965, by H. S. Irwin, R. Souza, and R. Reis dos Santos (No. 9367). Isotypes at NY, etc.

The needle-like leaflets of this species, known only from the type collection, are unique in Aeschynomene although similar ones are found in species of other leguminous genera. In general characters it appears to be most closely related to those species of section Pleuronerviae that have leaflets with a marginal costa. In cross-section the leaflets of Ae. irwinii have been found to be slightly asymmetrical, further suggesting such a relationship. I am indebted to Dr. Edward S. Ayensu for sectioning a leaflet and providing the illustration (fig. 1, c).

Fig. 1 - Aeschynomene irwinii: a, portion of stem and leaf with leaflets expanded; b, portion of inflorescence with fruit; c, diagram of leaflet X-section with tissues indicated: white, parenchyma; black, sclerenchyma; stippled, phloem; lined, xylem.

AESCHYNOMENE NANA Glaziou ex Rudd, sp. nov.

Aeschynomene nana Glaziou, Bull. Soc. Bot. France 53. Mem. 3b: 132. 1906, nom. nud.

Ae. paucifolia Vog. affinis sed caulibus gracilibus, brevioribus, foliis foliolisque minoribus, floribus plerumque longioribus, leguminibus adpressipubescentibus differt.

Suffrutescent perennial with numerous slender shoots arising from a deep, woody root; stems slender, weak, to about 35 cm. high, striate, moderately appressed-pubescent with ascending hairs; stipules lanceolate, attenuate, essentially glabrous, 2-5 mm. long and 0.5-1 mm. broad at the base; leaves with axis moderately appressed-pubescent, 1-2.5 cm. long, about 10-20-foliolate, the petiole 1-2 mm. long; leaflets sparsely appressed-pubescent, glabrescent, semicordate, acute, 3-4 mm. long and about 1 mm. broad at the base, the costa marginal; inflorescences few-flowered, pseudo-terminal; bracts and bracteoles lanceolate, striate, 3-4.5 mm. long and about 1 mm. wide at the base, sometimes glandular-ciliate, otherwise subglabrous; flowers 10-13 mm. long; calyx sparsely appressed-pubescent, 5-6 mm. long, the teeth attenuate, about 3 mm. long, sometimes glandular-ciliate; petals light orange, drying to chocolate brown, the standard 10-13 mm. long and about 5 mm. wide, pubescent on the outer face, the wings and keel petals slightly shorter and narrower; fruit appressed-pubescent, 1-5-articulate, the stipe about 1-2 mm. long but sometimes apparently 4-5 mm. long due to abortion of basal articles, the normal articles semi-orbicular, compressed, about 5 mm. long and 3 mm. wide, the margin sometimes separating from the body of the article; seeds not seen.

Type: Glaziou 20921, "Entre As Brancas et le Rio Roncador", Goiás, Brazil (P). Isotypes at F,G,K,MG,NY; F.M.Neg. 27930 ex G.

Additional collections: BRAZIL: Goiás: "Burned-over campo, ca. 7 km. W. of Veadeiros, Irwin, Greear, Souza, & Reis dos Santos 12886 (NY,US).

Glaziou's original description of Ae. nana was merely "Plante naine, fl. jaunes. Décembre-Janvier. R."; hence the designation as nomen nudum.

The flowers on the recent collection are abnormal in that they show a tendency toward "doubling", a standard and some petaloid stamens being present in addition to the usual complement of petals.

AESCHYNOMENE PAUCIFOLIA Vog. Linnaea 12: 94. 1838.

Suffrutescent perennial with numerous shoots arising from a deep, woody root; stems erect, to about 2 m. high, striate, moderately patent-pubescent to velutinous or the pubescence subappressed; stipules lanceolate, attenuate, striate, sparsely pubescent, 3-8 mm. long and 0.5-2 mm. broad at the base; leaves with axis pubescent like the stem, 2.5-10 cm. long, about 22-60-foliolate, the petiole 1-3 mm. long; leaflets subglabrous or pubescent with patent or subappressed hairs, semicordate, acute, 2-10 mm. long and 1-3 mm. broad at the base, the costa marginal; inflorescences few-flowered, axillary and pseudoterminal, sometimes with a few glandular hairs; bracts and bracteoles ovate, acute, subglabrous, striate, 2-3 mm. long and 1-1.5 mm. wide; flowers 8-12 mm. long; calyx moderately pubescent, 3-5 mm. long, the teeth deltoid, attenuate, 1-3 mm. long; petals yellow to orange, sometimes with brownish markings, drying to an overall chocolate brown color, the standard 6-12 mm. long, 4-9 mm. wide, pubescent on the outer face, the wings and keel petals shorter and narrower; fruit minutely patent-pubescent, 1.5-5-articulate, the stipe about 1 mm. long but sometimes apparently longer due to abortion of basal articles, the normal articles semi-orbicular, compressed, about 5 mm. long and 4 mm. wide; mature seeds not seen.

Type: "Sellow leg. ad S. Antonio do Monte", Minas Gerais, Brazil (B, presumably destroyed; F.M.Neg. 2152 of type ? ex B).

Additional collections: BRAZIL: Minas Gerais: Between Santa Anna do Rio das Velhas and Rio Paranhya, north of Uberabá, Riedel 4268 (US). Between Santa Anna dos Alegres and Rio San Francisco, Riedel 2926 (C,E,GH). Lagoa Santa, Riedel 722 (US); Hoehne (Comm. Rondon) 6615 (R); Warming 3017 (C,F,US), 3018 (C). Between Lanhoso and Tejuco, Burchell 5741 (GH). Between Tejuco and Veraba-Legitima, Burchell 5773 (K). Santa Luzia, Mello Baretto 6052 (F). Brejo das Almas, Markgraf 3280 (R). Jaboticatubas, Mello Barretto 10355 (R); L.B.Smith 6934 (US). Tres Marias, Heringer 9492 in part (US). Varzea da Palma, Duarte 7479 (US). Goiás: Between Pé-da-Rocha and Rio Corumbá, Burchell 6061-2 (GH). Serra Dourada, 20 km. E. of Formoso, Dawson 14822 (US). Between Caiponia and Jatai, Irwin & Soderstrom 7001 (NY,US). Distrito Federal: Near Brasília, Irwin & Soderstrom 5085 (NY,US), 5750 (NY,US), 6248 (NY,US); Irwin, Souza, & Reis dos Santos 8210 (NY,US), 9629 (NY,US). Planaltina, Irwin et al. 8808 (NY,US). Sobradinho, Irwin et al. 10123 (NY,US). Corrego Jeriva, Irwin et al. 15373 (NY,US). Matto Grosso: Xavantina, Irwin & Soderstrom 6791 (NY,US).